REMARKS

In the Office Action mailed October 29, 2002, claims 2-10, 16, 18-19, 21-27, 33-36, 38 and 41-43 were withdrawn from consideration as being drawn to a nonelected invention. Claims 1, 11-15, 17, 20, 28-32, 37, 39-40 and 44-45 were rejected under 35 U.S.C. 112, second paragraph. Claims 1, 10, 28-30, 37 and 44-45 were rejected under 35 U.S.C. 102(b) as being anticipated by DE 4427199. Claims 11-14, 17 and 39-40 were said to be allowable if rewritten to overcome the 35 U.S.C. 112, second paragraph rejections and if rewritten to include all limitations of the base claim and any intervening claims.

Election requirement

In the Office Action mailed October 29, 2002, claims 2-10, 16, 18-19, 21-27, 33-36, 38 and 41-43 were withdrawn from consideration as being drawn to a nonelected invention. In response, it is believed claims 16, 33-36, 41 and 42 are drawn to the elected invention. Claim 16 restricts RF to $-(CH_2)_v-C_wF_{2w+1}$ where v and w are integers ranging from 1 to 20, inclusive, and v + w is 5 to 20, inclusive. In the elected compound, w and v are both 4, and w + v is 8. Claim 16 also includes the limitations of claims 11-14 (claims which are included in the elected invention). Claims 33-36 are directed to the composition of claim 1 along with one or more additional compounds. Claim 41 depends on claim 37 (an independent claim which is included in the elected invention). Claim 41 includes the same limitation as claim 16, discussed above. Claim 42 depends on claim 37 and includes a phenylpyrimidine core. The elected invention includes this core. Reconsideration and rejoinder of claims 16, 33-36, 41 and 42 is respectfully requested.

35 U.S.C. 112, second paragraph rejection

In the Office Action mailed October 29, 2002, claims 1, 11-15, 17, 20, 28-32, 37, 39-40 and 44-45 were rejected under 35 U.S.C. 112, second paragraph.

In claims 1 and 37, the notation j in R1 was said to be not defined. In response, the variable j has been defined in claims 1 and 37 to be an integer from 1 to 18. This amendment is supported by the specification as filed on page 3, lines 17-18 ("j (an integer greater than or equal to 1) carbon atoms") and page 4, line 5 ("k(n) + m + j preferably

ranges from 6 to 20"). In the elected invention, k and n are 1, and m is required to be greater than zero. This leads to an upper value of 18 for j.

In claim 37, the R^F group was said to be not defined. In response, R^F in claim 37 has been defined to be a straight-chain or branched alkyl or ether group which is fully or partially fluorinated and contains up to 20 carbon atoms. This amendment is supported by the specification as filed on page 5, lines 17-19.

In claim 15, the group W was said to be not defined. In response, W in claim 15 has been amended to be a hydrogen or fluorine. This amendment is supported by the specification as filed on page 20, line 1. In claim 15, non-used variables v and w have also been deleted.

It is believed the amendments overcome all rejections under 35 U.S.C. 112, second paragraph. Reconsideration and withdrawal of the rejections is respectfully requested.

35 U.S.C. 102(b) rejection

In the Office Action mailed October 29, 2002, claims 1, 10, 28-30, 37 and 44-45 were rejected under 35 U.S.C. 102(b) as being anticipated by DE 4427199. The Office Action stated the compounds disclosed "have a phenylpyrimidine core or a biphenylpyridine with a fluorinated alkyl and a silylalkyl at two side groups. The ferroelectric liquid crystal mixture of the reference has phase transition form isotrop-nematic-smecic A-smectic C. See the compounds having a fluorinated alkyl and a silylalkyl at two side groups, such as compounds 51-52, 78, 88, 152-153, 179 and 189 in the specification. Also see the compounds in CAPLUS 1996: 239763, which are the abstract of DE 4427199."

In response, the claims have been amended to provide that the A, B or C rings are not a 3,4-difluoropyridine ring. This amendment is supported by the specification as filed, including page 5, lines 1-14 and page 18, lines 17-18. Although no English translation of the DE 4427199 reference was provided, the English abstract and all

examples provided in CAPLUS 1996: 239763 and DE 4427199 require that one of the rings is a 3,4-difluoropyridine ring. This amendment is believed to overcome the 102(b) rejection. Reconsideration and withdrawal of the rejection is respectfully requested.

Allowable claims

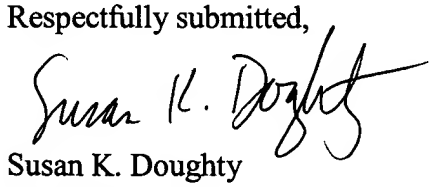
In the Office Action mailed October 29, 2002, claims 11-14, 17 and 39-40 were said to be allowable if rewritten to overcome the 35 U.S.C. 112, second paragraph rejections and if rewritten to include all limitations of the base claim and any intervening claims. While Applicant does not concede to the rejections, to advance prosecution, claims 11 and 39 have been rewritten to include all limitations of the base claim and any intervening claims. Claims 12-14, 17 and 40 are dependent on claims 11 and 39.

CONCLUSION

It is believed all objections and rejections are overcome. Reconsideration and withdrawal of all objections and rejections is respectfully requested and allowance of claims 1, 11-17, 20, 28-37, 39-42, 44 and 45 is respectfully requested.

This Response to Office Action is accompanied by a Request for a Two Month Extension of Time in order that the accompanying submission is timely filed. A check in the amount of $410.00 is also enclosed for the requisite fee. If this amount is incorrect, however, please charge any fee due, including any extensions of time required or credit any overpayment to Deposit Account No. 07-1969.

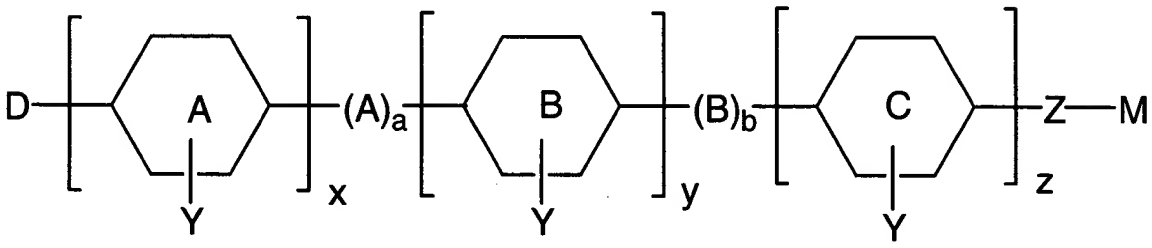
Respectfully submitted,



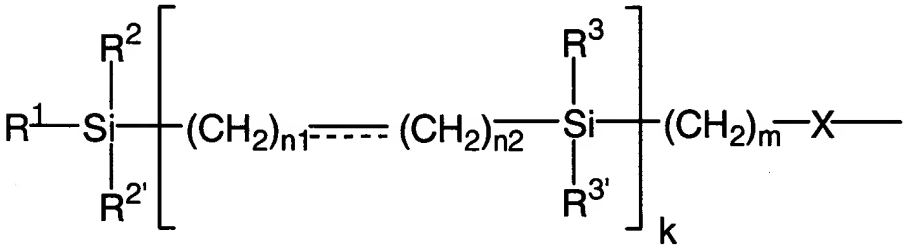
Susan K. Doughty
Reg. No. 43,595

GREENLEE, WINNER AND SULLIVAN, P.C.
5370 Manhattan Circle, Suite 201
Boulder, CO 80303
Telephone: (303) 499-8080
Facsimile: (303) 499-8089
E-mail: winner@greenwin.com
Attorney docket No.: 85-00

1. (Once amended) A liquid crystal composition comprising one or more compounds of formula:



where D is:



where:

R^1 is an alkyl or alkenyl group having j carbon atoms and R^2, $R^{2'}$, R^3 and $R^{3'}$, independently of one another, are alkyl groups having from 1-6 carbon atoms;

n1 and m are integers from 1 to about 20;

n2 can be zero or an integer from 1 to 20 where the dashed line indicates a possible double or triple bond;

k is 0 or an integer from 1 to 10; [and]

X is oxygen or a single bond; and

j is an integer from 1 to 18;

and

wherein a, b, x, y, z can be 0 or 1 ; x + y + z is 1, 2 or 3, when x is 0, a is 0; when z is 0, b is 0;

A and B, independently, when present, can be -O-, -COO-, -OOC-, $-CH_2-CH_2-$, -CH=CH- , -C≡C-, -CH=CH-CH=CH- , $-O-CH_2-$ or $-CH_2-O$;

the A, B and C rings, independently of one another, are aromatic rings or alicyclic rings, where one or two carbons in the A, B or C rings that are aromatic can be replaced with a N, O or S and one or two of the carbons in the A, B or C rings that are alicylic can be replaced with a N, O or S or a C=O group; provided that the A, B or C rings are not a 3,4-difluoropyridine ring;

Y can represent up to four substituents on aromatic rings and up to 10 substituents on an alicyclic ring where Y can a halogen, CN group, NO_2, alkyl or alkoxy;

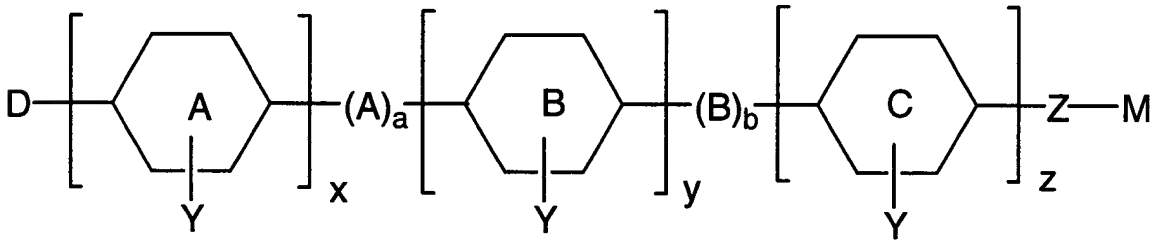
Z is a single bond, an -O- or a -COO- or -OOC- group, and

M is a tail group which can be:

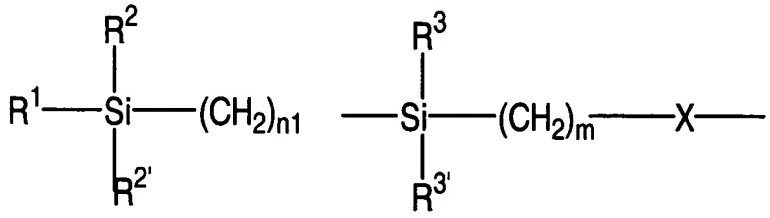
a non-fluorinated alkyl, or ether group or R^F,

where R^F is an alkyl, or ether group which is fully or partially fluorinated.

11. (Once amended) A liquid crystal composition comprising one or more compounds of formula:



where D is:



where:

R^1 is an alkyl or alkenyl group having j carbon atoms and R^2, $R^{2'}$, R^3 and $R^{3'}$, independently of one another, are alkyl groups having from 1-6 carbon atoms;

n1 and m are integers from 1 to about 20;

X is oxygen or a single bond; and

j is an integer from 1 to 18;

and

wherein a, b, x, y, z can be 0 or 1 ; x + y + z is 1, 2 or 3, when x is 0, a is 0; when z is 0, b is 0;

A and B, independently, when present, can be -O-, -COO-, -OOC-, $-CH_2-CH_2-$, -CH=CH- , -C≡C-, -CH=CH-CH=CH- , $-O-CH_2-$ or $-CH_2-O$;

the A, B and C rings, independently of one another, are aromatic rings or alicyclic rings, where one or two carbons in the A, B or C rings that are aromatic can be replaced with a N, O or S and one or two of the carbons in the A, B or C rings that are alicylic can be replaced with a N, O or S or a C=O group; provided that the A, B or C rings are not a 3,4-difluoropyridine ring;

Y can represent up to four substituents on aromatic rings and up to 10 substituents on an alicyclic ring where Y can a halogen, CN group, NO_2, alkyl or alkoxy;

Z is a single bond, an -O- or a -COO- or -OOC- group, and

M is a tail group which can be:

a non-fluorinated alkyl, or ether group or R^F,

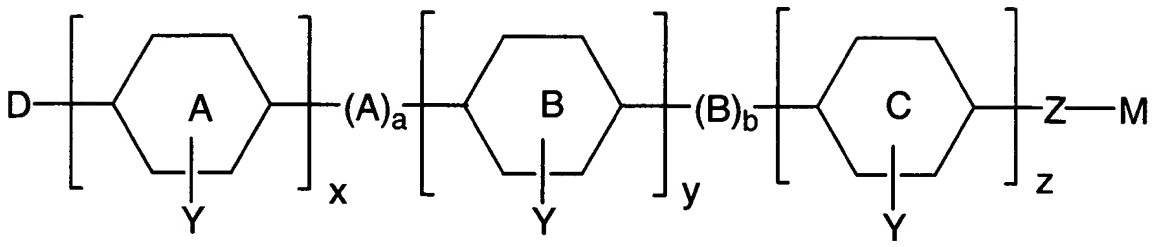
where R^F is an alkyl, or ether group which is fully or partially fluorinated.

15. (Once amended) The LC composition of claim 14 wherein R^F is:

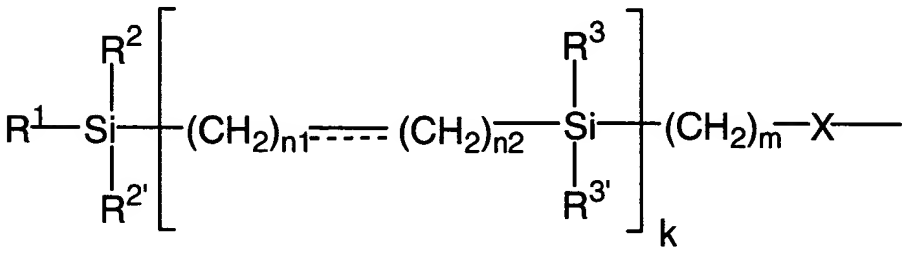
$-(CH_2)_p(CF_2)_q-O-(CH_2)_r-(CF_2)_s-[O-(CH_2)_t-(CF_2)_u]_h-W$

where h is 0 or an integer ranging from 1 to 10, inclusive, p, q, r, s, t, and u [, v, and w] are 0 or integers ranging from 1 to about 20, inclusive and where p + q + r + s + h(t + u) is equal to about 20, inclusive, where W is a hydrogen or fluorine.

37. (Once amended) A LC compound having the formula:



where D is:



where:

R^1 is an alkyl or alkenyl group having j carbon atoms and R^2, $R^{2'}$, R^3 and $R^{3'}$, independently of one another, are alkyl groups having from 1-6 carbon atoms;

n1 and m are integers from 1 to about 20;

n2 can be zero or an integer from 1 to 20 where the dashed line indicates a possible double or triple bond;

k is 0 or an integer from 1 to 10; [and]

X is oxygen or a single bond; and

j is an integer from 1 to 18;

and

wherein a, b, x, y, z can be 0 or 1 ; x + y + z is 1, 2 or 3, when x is 0, a is 0; when z is 0, b is 0;

A and B, independently, when present, can be -O-, -COO-, -OOC-, $-CH_2-CH_2-$, -CH=CH- , -C≡C-, -CH=CH-CH=CH- , $-O-CH_2-$ or $-CH_2-O$;

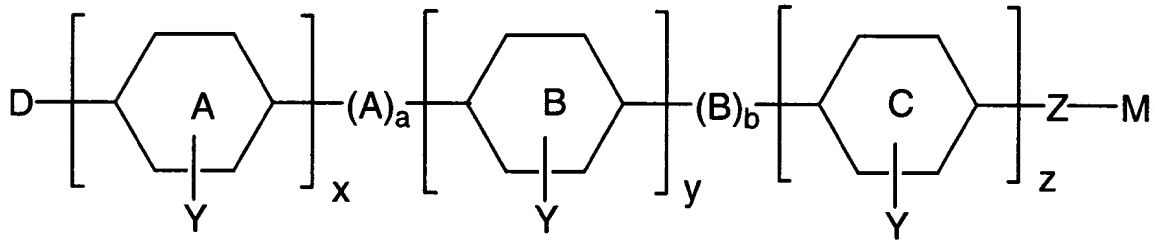
the A, B and C rings, independently of one another, are aromatic rings or alicyclic rings, where one or two carbons in the A, B or C rings that are aromatic can be replaced with a N, O or S and one or two of the carbons in the A, B or C rings that are alicylic can be replaced with a N, O or S or a C=O group; provided that the A, B or C rings are not a 3,4-difluoropyridine ring;

Y can represent up to four substituents on aromatic rings and up to 10 substituents on an alicyclic ring where Y can be a halogen, CN group, NO_2, alkyl or alkoxy;

Z is a single bond, an -O- or a -COO- or -OOC- group, and

M is R^F, where R^F is a straight-chain or branched alkyl or ether group which is fully or partially fluorinated and contains up to 20 carbon atoms.

39. (Once amended) A LC compound having the formula:



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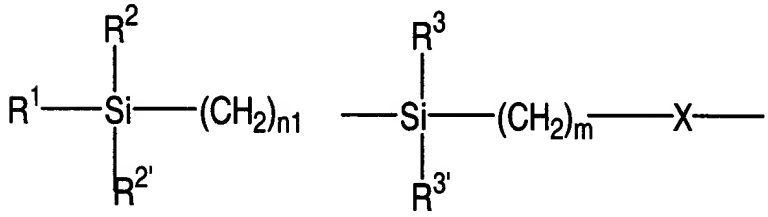
where D is:



where:

R^1 is an alkyl or alkenyl group having j carbon atoms and R^2, $R^{2'}$, R^3 and $R^{3'}$, independently of one another, are alkyl groups having from 1-6 carbon atoms;

n1 and m are integers from 1 to about 20;

X is oxygen or a single bond; and

j is an integer from 1 to 18;

and

wherein a, b, x, y, z can be 0 or 1 ; x + y + z is 1, 2 or 3, when x is 0, a is 0; when z is 0, b is 0;

A and B, independently, when present, can be -O-, -COO-, -OOC-, $-CH_2-CH_2-$, -CH=CH- , -C≡C-, -CH=CH-CH=CH- , $-O-CH_2-$ or $-CH_2-O$;

the A, B and C rings, independently of one another, are aromatic rings or alicyclic rings, where one or two carbons in the A, B or C rings that are aromatic can be replaced with a N, O or S and one or two of the carbons in the A, B or C rings that are alicylic can be replaced with a N, O or S or a C=O group; provided that the A, B or C rings are not a 3,4-difluoropyridine ring;

Y can represent up to four substituents on aromatic rings and up to 10 substituents on an alicyclic ring where Y can a halogen, CN group, NO_2, alkyl or alkoxy;

Z is a single bond, an -O- or a -COO- or -OOC- group, and

M is R^F, where R^F is a straight-chain or branched alkyl or ether group which is fully or partially fluorinated and contains up to 20 carbon atoms.